

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated January 9, 2009. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1 and 4-6 stand for consideration in this application, wherein claims 1 and 5 are being amended. Claims 7-22 stand withdrawn from consideration in this application. All amendments to the application are fully supported therein, including at least Figs. 5, 9 and 12, along with their corresponding descriptions in the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

The Examiner rejected claims 1, 5, and 6 under 35 U.S.C. §102(b) as being anticipated by Johnson (U.S. Patent No. 4,752,118). The Examiner also rejected claims 1, 5, and 6 under 35 U.S.C. §102(b) as being anticipated by Katayama et al. (U.S. Patent No. 5,151,807). Further, the Examiner rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over Johnson in view of Liu et al. (U.S. Patent No. 5,518,956). Applicants have reviewed the above-outlined rejections and hereby respectfully traverse.

The present invention as set forth in claim is directed to a display device forming a display region where a plurality of films including an insulation film, a semiconductor film and a conductive film are patterned in a given pattern and stacked on a substrate, wherein at a point of time that at least one correction portion out of a correction portion which separates a short-circuit defect, a correction portion which connects an opening defect, a correction portion which removes a standard deviation defect, and a correction portion which separates a standard deviation defect of the pattern is corrected, at least one upper-layer film is formed on a film to be corrected at the correction portion and overlaps the correction portion. The correction is applied to the film to be corrected while the upper-layer film remains at a region which overlaps the correction portion without using the upper-layer film as a material for the correction, and the correction of the correction portion is performed by the irradiation of a

laser beam through the at least one upper-layer film from a side of the at least one upper-layer film opposite the substrate and not through a substrate.

In a display device as recited in claim 1, at least one upper-layer film is formed on a film to be corrected at the correction portion and overlaps the correction portion. The correction is applied to the film to be corrected while the upper-layer film remains at a region which overlaps the correction portion. In other words, the present invention as claimed requires that correction or bridging must be performed “without using the upper-layer film as material for the correction” (see Figs. 15 and 16 and the corresponding narratives in the specification). As illustrated in any of Figs. 5, 9 and 12, for example, a short circuit defect DF, which is the collection portion, is removed while leaving the insulation film PAS intact, which overlaps the portion in which the short circuit defect DF existed. (See for example page 19, line 13-17 of the specification). In the present invention, the opening in a circuit line is corrected by the circuit line itself being melted by laser, and the upper layer on the circuit line is NOT used for the correction.

In contrast, Johnson ‘118 merely discloses that the opening of a circuit line is filled by a phase change material 182, and that a break 176 in a circuit line is repaired by applying radiant energy (laser beam) to switch phase-change material 182 (upper-layer film) which bridges the break in the circuit line to a more conductive state portion 188 (Figs. 15-17 and col. 13-14). In other words, the phase change material 182 filling the opening is turned conductive by the application of a laser beam. Thus, the upper film which is made from the phase change material is used to bridge the opening of the circuit line.

Johnson ‘118 thus fails to disclose “the correction is applied to the film to be corrected while the upper-layer film remains at a region which overlaps the correction portion without using the upper-layer film as a material for the correction” as recited in claim 1. As a result, the present invention as claimed is not anticipated by Johnson. Further, since claims 5-6 depend from claim 1, these claims are also not anticipated by Johnson.

Regarding the rejection of claim 5, the Examiner contended that Johnson ‘118 discloses the upper-layer film above the film to be corrected includes an insulator. However, claim 5 as now written requires that an upper layer on the film to be corrected must be either one of an insulation film and a transparent conductive film. The layer contacting the circuit line in Johnson ‘118 must be the phase changing material, not an insulation film nor a transparent conductive film. Thus, here as well, Johnson ‘118 cannot anticipate each and every feature of the claimed invention.

With respect to the rejection based on Katayama '807, the Examiner contended that Katayama '807 shows an upper layer (Fig. 13, (120)) is present above the film to be corrected; it appears the Examiner is interpreting the upper substrate as being the upper-layer film. As amended, claim 1 requires that one upper-layer film is formed on a film to be corrected at the correction portion. Applicants will point out that the upper substrate in Katayama '807 does NOT contact or is NOT ON a film to be corrected.

Further, Fig. 16 of Katayama '807 shows that the drain electrode is cut by a laser. However, this reference does not teach when and from which side the laser is applied. Even more contrary to the Examiner's position that the present invention as recited in claim 1 is not structurally different from the structure shown in Katayama, the present invention as now claimed requires that the upper-layer film remains at a region which overlaps correction portion. Katayama '807 does not disclose or suggest whether the upper film remains or not after the drain electrode is cut by the laser. Absent knowledge of the structure and operation of the present invention, Applicants will contend that one of skill in the art would believe that, after the drain electrode beneath the upper layer is cut by the laser, the upper layer of Katayama '807 would also be cut by the laser and not remain, as would be known in the prior art.

Therefore, Katayama by itself cannot anticipate each and every feature recited in claim 1, nor each and every feature recited in any of the claims dependent on claim 1.

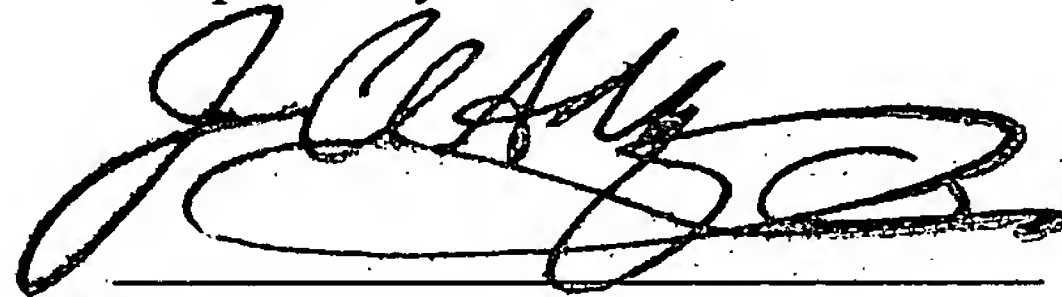
The secondary reference of Liu '956, as noted in the prior response, was only cited for showing features recited in claim 4. However, Liu '956 simply discloses that a laser is applied plural times, but there is no film on a common electrode, which is ablated by laser. Thus, Liu '956 fails to disclose, teach or suggest any structure or operation that makes up for the deficiencies in Johnson '118 such that their combination could render the present invention obvious to one of skill in the art. Rather, even if the references were combined, these references together would still fall short of disclosing or suggesting that "the correction is applied to the film to be corrected while the upper-layer film remains at a region which overlaps the correction portion without using the upper-layer film as a material for the correction" as recited in claim 1. Thus, the present invention as a whole is distinguishable and thereby allowable over Johnson '118 and Liu '956.

Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. C. Marquez', written over a horizontal line.

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